AMENDMENTS TO THE CLAIMS

The following listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Original) A soft metal conductor for use in a semiconductor device comprising grains having grain sizes larger than 200 nm so as to provide a substantially scratch-free surface upon polishing in a subsequent chemical mechanical polishing step, said soft metal conductor being formed by at least one metal selected from the group consisting of Al, Cu and Ag.

Claim 2 (Original) An electrically conducting soft metal structure for use in a semiconductor device comprising:

an uppermost layer consisting of grains having grain sizes not smaller than 200 nm, and

a second layer contiguous with and immediately adjacent to said uppermost layer consisting of grains having grain sizes not larger than about 20% of the thickness of said soft metal structure.

Claim 3 (Original) An electrically conducting soft metal structure according to claim 2, wherein said uppermost layer having a thickness, sufficiently large to provide a substantially scratch-free and erosion-free surface upon polishing in a chemical mechanical polishing method.

Claim 4 (Original) An electrically conducting soft metal structure according to claim 2, wherein said structure being made of a metal selected from the group consisting of aluminum, copper, silver, ternary and binary alloys of aluminum, copper, silver and any other low resistance metal.

Claim 5 (Original) An electrically conducting soft metal structure according to claim 2, wherein said structure being a member selected from the group consisting of a via, an interconnect and a line.

Claim 6 (Original) An electrically conducting soft metal structure according to claim 2, wherein said uppermost layer having grains of metal not less than 200 nm in grain size and a thickness of at least 100 nm.

Claim 7 (Original) An electrically conducting soft metal structure according to claim 2, wherein said uppermost layer having grains of metal not less than 200 nm in grain size and said second layer having grains of metal not more than 100 nm in grain size.

Claim 8 (Original) An electrically conducting soft metal structure according to claim 2, wherein said second layer having grains of metal not more than 100 nm in grain size and a thickness of not less than 600 nm.

Claim 9 (Original) An electrically conducting soft metal structure according to claim 2 further comprising a bottom layer contiguous with and immediately adjacent to said second layer, said bottom layer consisting of grain of metal not less than 200 nm in grain size.

Claim 10 (Currently Amended) A soft metal conductor for use in a semiconductor device comprising:

a first soft metal layer;

a Ti layer of less than 30 am thickness on top of said first soft metal layer;

a second soft metal layer on top of said Ti layer having in its uppermost surface metal grains of grain sizes not smaller than about 20% of the thickness of said second soft metal layer, said first soft metal layer and said second soft metal layer are formed by at least one metal selected from the group consisting of Al, Cu and Ag; and

whereby said Ti layer sandwiched between said two soft metal layers is converted to $TiA1_3$ upon annealing at a temperature higher than room temperature such that diffusion of atoms of said metal through said ~~$Ti Al_3$~~ $TiA1_3$ film occurs upon the passage of an electrical current therethrough and thus improving the electromigration resistance of said soft metal conductor.

Claim 11 (Currently Amended) A soft metal structure according to claim 10, wherein said first soft metal layer is formed by a member selected from the group consisting Al, Cu, Ag, CuAg, CuAl, AgAl and CuAgAl.

Claim 12 (Original) A soft metal conductor according to claim 10, wherein said Ti layer further comprising composite layers of Ti and Ti alloys including Ti/TiN.

Claim 13 (Original) A soft metal conductor according to claim 10, wherein said Ti layer is situated at the bottom of a via having portions of said layer in extremely small thickness or portions of said layer in voids so as to allow the existence of a continuous phase of said metal material or diffusion of said metal atoms across a $TiAl_3$ layer subsequently formed and a resulting improvement in the electromigration resistance of said soft metal conductor.

Claim 14 (Original) A soft metal conductor according to claim 10 further comprising an annealing step at a predetermined temperature and for a predetermined length of time sufficient to convert said Ti layer to $TiAl_3$ when said soft metal used in forming said first soft metal layer and said second soft metal layer is Al or AlCu.

Claim 15 (Currently Amended) A soft metal conductor according to claim 14, wherein said predetermined temperature is not less than 300 °C[[.]] and said predetermined length of time is not less than 10 min.

Claim 16 (Currently Amended) A soft metal conductor according to claim 14, wherein said predetermined temperature is 400 °C[[.]] and said predetermined length of time is 30 min.

Claims 17-37 (Canceled).